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09/871,983	06/04/2001	Satoshi Ichikawa	208526US-2S CONT	3486

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

SUMMONS, BARBARA

ART UNIT PAPER NUMBER

2817

DATE MAILED: 05/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 09/871,983	Applicant(s) Ichikawa et al.
Examiner Barbara Summers	Group Art Unit 2817

The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 (three) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- Responsive to communication(s) filed on 4/23/03 (RCE) & 2/24/03 (Amendment) <sup>Submission</sup>
- This action is FINAL.
- Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

- Claim(s) 1-7 is/are pending in the application.
- Of the above claim(s) is/are withdrawn from consideration.
- Claim(s) 3-6 is/are allowed.
- Claim(s) 1, 2 & 7 is/are rejected.
- Claim(s) is/are objected to.
- Claim(s) are subject to restriction or election requirement

Application Papers

- The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.
- The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- All  Some\*  None of the:
  - Certified copies of the priority documents have been received.
  - Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
  - Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

Attachment(s)

- Information Disclosure Statement(s), PTO-1449, Paper No(s) \_\_\_\_\_
- Interview Summary, PTO-413
- Notice of Reference(s) Cited, PTO-892
- Notice of Informal Patent Application, PTO-152
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Other \_\_\_\_\_

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## **DETAILED ACTION**

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR § 1.114, including the fee set forth in 37 CFR § 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/27/03 (cert. of mailing 2/24/03) has been entered.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 2, and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kajihara et al. U.S. 5,559,483 (of record) taken in conjunction with Dai et al. U.S. 5,896,071 (of record).

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Fig. 4 of Kajihara et al. discloses a surface acoustic wave (SAW) device comprising: a plurality of transducers (25, 27, 33, 35), wherein at least two of the transducers (25 and 33 and 27 and 35) are connected in parallel to each other and the resonant modes of the transducers are coupled (see Figs. 5-8). Regarding claims 2 and 7, each of the transducers (25,27 and 33,35) has a triple-mode resonant frequency characteristic (see Figs. 5 and 6 and the Title), and they are formed on the same piezoelectric substrate 19 (Fig. 4).

However, Kajihara et al. does not show the transducers including a plurality of regions whose SAW propagation directions are opposite.

Fig. 4 of Dai et al. shows that it is known to form a triple-mode SAW filter with resonant single phase unidirectional transducers (RSPUDTs) 32 and 34, each of the RSPUDTs being a region having a pair of comb electrodes whose SAW propagation directions are opposite to each other, as best seen in Fig. 7. The triple-mode resonance is provided by the resonance cavities C1, C2 and C3 (see also col. 3, lns. 59-66).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the SAW filter device of Kajihara et al. (Fig. 4) by having replaced its triple-mode filters with triple-mode filters using RSPUDTs as taught, for example, by Dai et al. (Fig. 4), because such an obvious modification would have been the mere substitution of art recognized equivalent alternate triple-mode filters.

It would have been equally obvious to one of ordinary skill in the art at the time the invention was made to have modified the triple-mode RSPUDT SAW filter of Dai et al. (Fig. 4) by having coupled two of them in parallel so that their resonant modes would couple as taught,

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for example, by Kajihara et al. (Figs. 4-8), because such an obvious modification would have provided the advantageous benefits of a wide passband, excellent passband filter characteristics, excellent filter characteristics in a rejection band near the passband, and in the rejection band as a whole as suggested by Kajihara et al. (see col. 2, lns. 6-21).

*Allowable Subject Matter*

4. Claims 3-6 are allowable over the prior art of record.
5. The following is a statement of reasons for the indication of allowable subject matter:

The reasons for allowance of claims 3-6 remain as stated in paragraph 7 of the Office action mailed 4/18/02. That is, the prior art of record does not teach or fairly suggest the specifically recited relationships of the six resonant frequencies. Paragraph 7 of the Office action mailed 4/18/02 also foreshadowed the preceding rejection.

*Response to Arguments*

6. Applicant's arguments with respect to claim 1 as being anticipated by Dai et al. have been considered but are moot in view of the new ground(s) of rejection.
7. Any inquiry concerning this communication should be directed to Barbara Summons at telephone number (703) 308-4947, FAX no. (703) 308-7724, receptionist's no. (703) 308-0956, Supervisory Examiner Bob Pascal (703) 308-4909.

*Barbara Summons*

Barbara Summons  
Primary Examiner  
Art Unit 2817

bs  
May 25, 2003